

James B. Ponzo, et al.  
Application No.: 09/371,973  
Page 2

LISTING OF CLAIMS:

- 1 1. (Original) A catalyst bed for decomposition of monopropellant  
2 fuel using a transitional metal catalyst over which the fuel is made to flow; the bed  
3 comprising:  
4 a plurality of thin metal plates in a stacked contiguous relation, each such  
5 plate having a surface of catalytic material and a plurality of flow-through holes of  
6 selected size and location for flow of said fuel axially through said stacked plates at least  
7 a portion of each such plate on a downstream side being etched to permit lateral flow of  
8 said fuel between said plates.
- 1 2. (Original) The catalyst bed recited in claim 1 wherein said  
2 plurality of plates comprises a plurality of groups of said plates, each said group being  
3 separated from adjacent said groups by a metering plate having flow-through holes that  
4 provide reduced open area compared to the flow-through holes of said adjacent groups of  
5 said plates.
- 1 3. (Original) The catalyst bed recited in claim 2 wherein each said  
2 metering plate which is positioned more downstream of an upstream metering plate  
3 comprises larger flow-through holes than said upstream metering plate.
- 1 4. (Original) The catalyst bed recited in claim 1 wherein said flow-  
2 through holes of adjacent plates are axially offset from plate to plate to promote lateral  
3 flow of said fuel between said plates.
- 1 5. (Original) The catalyst bed recited in claim 1 wherein said etched  
2 downstream side of each said plate comprises unetched portions forming support  
3 columns for supporting each said plate on an adjacent said plate.
- 1 6. (Original) The catalyst bed recited in claim 1 wherein said metal  
2 plates are substantially circular.

James B. Ponzo, et al.  
Application No.: 09/371,973  
Page 3

1                   7. (Original) The catalyst bed recited in claim 1 wherein said metal  
2 plates are bonded to one another to form a monolithic stack.

1                   8. (Original) A catalyst converter for promoting the decomposition  
2 of a liquid fuel into a gas; the converter comprising:  
3 a plurality of thin metal plates having a surface formed of a catalyst  
4 material and stacked axially along a flow path of said fuel from upstream to downstream;  
5 each said plate having a plurality of flow-through holes leading from its upstream surface  
6 to its downstream surface, the downstream surface of each said plate being at least  
7 partially removed to promote lateral flow of said fuel between each pair of adjacent  
8 plates.

B1

1                   9. (Currently Amended) The catalyst converter recited in claim 8  
2 wherein said plurality of plates comprises a plurality of groups of said plates, each said  
3 group being separated from adjacent said groups by a metering plate having flow-through  
4 holes that provide reduced open area as compared to the flow-through holes of said  
5 adjacent groups of said plates.

1                   10. (Original) The catalyst converter recited in claim 9 wherein each  
2 said metering plate which is positioned more downstream of an upstream metering plate,  
3 comprises larger flow-through holes than said upstream metering plate.

1                   11. (Original) The catalyst converter recited in claim 8 wherein said  
2 flow-through holes of adjacent plates are axially offset from plate to plate to promote  
3 lateral flow of said fuel between said plates.

1                   12. (Original) The catalyst converter recited in claim 8 wherein said  
2 etched downstream side of each said plate comprises unetched portions forming support  
3 columns for supporting each said plate on an adjacent said plate.

1                   13.   (Original) The catalyst converter recited in claim 8 wherein said  
2 metal plates are substantially circular.

1                   14.   (Original) The catalyst converter recited in claim 8 wherein said  
2 metal plates are bonded to one another to form a monolithic stack.

1                   15.   (Previously Amended) A catalyst bed comprising: a generally  
2 cylindrical array of catalyst material the axis of which is substantially parallel to the  
3 direction of flow of a fluid through said bed, the catalyst material being configured as the  
4 surface material of a plurality of stacked, contiguous, thin metal plates having axial flow-  
5 through holes of selected size and location to promote uniform flow and contact of said  
6 fluid with said catalyst material, at least a portion of each said thin metal plate on a  
7 downstream side is removed to provide a gap between adjacent plates to promote lateral  
8 flow of said fluid.

1                   16.   Cancelled

1                   17.   (Original) The catalyst bed recited in claim 15 wherein said plates  
2 are segregated into a plurality of groups of said plates and wherein each said group is  
3 separated from an adjacent group by a metering plate having flow-through holes the total  
4 area of which is less than the total area of the flow-through holes in said plates of said  
5 groups.

1                   18.   (Original) The catalyst bed recited in claim 17 wherein each said  
2 metering plate which is positioned more downstream of an upstream metering plate  
3 comprises larger flow-through holes than said upstream metering plate.

1                   19.   (Original) The catalyst bed recited in claim 15 wherein said flow-  
2 through holes of adjacent plates are axially offset from plate to plate to promote lateral  
3 flow of said fuel between said plates.

1                   20.   (Previously Amended) The catalyst bed recited in claim 15  
2 wherein said removed portion of each said plate comprises unremoved portions forming  
3 support columns for supporting each said plate on an adjacent said plate.

B1

1                   21.   (Original) The catalyst bed recited in claim 15 wherein each said  
2 plate is characterized by an open area ratio which is defined as the combined area of the  
3 flow-through holes divided by the total area of the plate and wherein the open area ratio  
4 of said plates generally increases along said direction of flow.

---